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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,651

07/13/2006

Michael Vossing

KMG-001

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EXAMINER

LEE, REBECCA Y

ART UNIT

PAPER NUMBER

4181

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/564,651	<b>Applicant(s)</b> VOSSING ET AL.	
	<b>Examiner</b> REBECCA LEE	<b>Art Unit</b> 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 46-78 is/are pending in the application.
- 4a) Of the above claim(s) 46-62, 67, 68 and 73-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 63-66 and 69-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/13/06, 05/22/06</u> .                                      | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Election acknowledged***

Applicants' election with traverse the invention group III of claims 63-66 and 69-72 is acknowledged. Applicants traverse the restriction requirement on the grounds that there is a common technical feature among all claims. Applicant's argument is partially persuasive where applicants argue the special technical feature in common is "a precipitate obtainable by concentrating an iron (II) sulfate containing used sulfuric acid and separating the sulfuric acid from the obtained precipitate". However, the lack of unity between inventions are still lacking since there is no special technical feature which was proven by reviewing prior art, for example, US 4505886, Cody et al. discloses copperas (iron sulfate) is crystallized out from sulfuric acid solution and cools the solution to precipitate the iron sulfate; it would have been obvious inventive step to one of ordinary skill in the art to expect similar product would be obtained. Otherwise, the product which is substantially same as claimed are treated as product claims where the precipitate obtained is obvious modification over the prior art. Since the technical feature commonly shared by each invention don't have a contribution that each invention makes over the prior art as a whole. Although lack of unity is now issued with different basis, grouping of individual invention as shown in previous office action should be maintained same.

Claims 46-78 are now pending. The examination is based on elected claims 63-66 and 69-72. All remaining claims not drawn to the elected invention are withdrawn from further consideration as being non-elected. The following rejections are made.

***Information Disclosure Statement***

The information disclosure statement filed 01/13/06 and 05/22/06 list documents (H-J, L and R-T). However, no translated copies have been submitted for the examiner to determine the relevance of the document. Accordingly, it has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 63-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US4572739) in view of Cody et al. (US4505886).**

Regarding to claim 63-65, Rasmussen teaches to eliminate or substantially reduce the content of water-soluble chromate using ferrous sulphate. The ferrous sulfate in an amount of 0.01-10 and preferably 0.4 percent by weight is added to and mixed with the cement (see abstract and Column 2, lines 22-40). The cement is milled

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before stored (before filling in packages or bulk containers or transport containers) (Column 2, lines 17-35 and 42-50).

Rasmussen does not specifically teaches the ferrous sulphate used is the precipitate produced by concentrating an iron(II) sulphate-containing used sulphuric acid and removing the sulphuric acid; or the precipitate has an average crystallite size of less than 2  $\mu\text{m}$  with a titanium content of 5 to 15% by weight.

Cody et al. discloses a similar process to obtain iron sulphate by crystallizing (precipitating) out copperas (iron(II) sulphate-containing precipitate) from sulfuric acid (Column 4, lines 3-26). Before the crystallization, the ferrous sulfate is 2-25% by weight, titanium 5-25% by weight in the solution; after crystallization, the ferrous sulfate is 0-10% by weight, titanium 5-30% by weight in the solution. It would be obvious that there are some titanium precipitate out with ferrous sulfate. It would also be obvious to one of ordinary skill in the art to expect the titanium content is within the claimed range of 5-15% by weight base on iron.

It would have been obvious to perform the process disclosed by Rasmussen including the use of the ferrous sulfate made by Cody et al. as a reducing agent. the suggestion and motivation for doing so would have been to provide a reducing agent required by the process of Rasmussen of which the details are not disclosed.

Regarding to claim 66, since the process of reducing soluble chromate in cement is obvious over Rasmussen in view of Cody et al., the reducing effect of the iron(II) sulphate-containing reducing agent increases at least temporarily as the storage time increases as claimed should also be obvious over Rasmussen in view of Cody et al.

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One of ordinary skill in the art would expect the same effect to be shown by Rasmussen in view of Cody et al.

**Claims 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US4572739).**

Regarding to claim 69-71, Rasmussen teaches to eliminate or substantially reduce the content of water-soluble chromate using ferrous sulphate ( $\text{FeSO}_4 \cdot n\text{H}_2\text{O}$ ). (an iron(II) sulphate reducing agent, with  $n=7$ , it is green salt). The ferrous sulfate in an amount of 0.01-10 and preferably 0.4 percent by weight is added to and mixed with the cement (see abstract and Column 2, lines 22-40). The cement is milled before stored (before filling in packages or bulk containers or transport containers) (Column 2, lines 17-35 and 42-50).

Rasmussen does not specifically teaches the ferrous sulphate used is the precipitate produced by concentrating an iron(II) sulphate-containing used sulphuric acid and removing the sulphuric acid. However, this is considered as a product-by process claim, any iron(II) sulphate-containing reducing agent meets the claim limitation. (MPEP 2113).

Regarding to claim 72, since the process of reducing soluble chromate in cement would have been obvious over Rasmussen, the reducing effect of the iron(II) sulphate-containing reducing agent increases at least temporarily as the storage time increases as

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claimed should also be obvious over Rasmussen. Thus, One of ordinary skill in the art would have been motivated to do so with successful expectation of the same effect as shown by Rasmussen.

### ***Conclusion***

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 5712720579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./

Examiner, Art Unit 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181